

REMARKS/ARGUMENTS

Claims 1-5 and 7-39 are pending in the application, with claims 27-37 withdrawn from consideration. Claims 1, 5, 21, 27 and 35 have been amended and therefore claims 1-5 and 7-39 remain in this application.

The Examiner's acknowledgment of Applicant's claim for foreign priority and receipt of the certified copy of the priority document is very much appreciated. Additionally, the Examiner's consideration of the prior art noted in Applicant's Information Disclosure Statement is appreciated.

In section 1, page 2 of the Official Action, the examiner alleges that there is no "common special technical feature" uniting the independent claims which is not anticipated by the Haas reference. While the Examiner suggests that Haas teaches all claimed elements, it is noted that Haas does not teach an open structure "including elements separated by gaps" as set out in the originally filed claims. It is further noted that Haas does not teach an intermediate member which "suffers substantially no local deformation in regions of the intermediate member that bridge the gaps." Because these features reside in all of Applicant's independent claims 1, 21, 27 and 35, reconsideration of the finality of the Examiner's restriction requirement is respectfully requested. Again, it is noted that this application is a national phase entry of a PCT application and thus the Examiner must apply PCT Rule 13.2.

Also it is noted that in the initial restriction requirement, the Examiner did not cite the Haas reference and instead suggested that the apparatus was known in the art and cited the Nardiello reference. The Examiner, in making the restriction final, now relies upon Haas by itself or Haas in combination with Bornschlegl. Accordingly, Applicant is entitled, as a matter of

right, to an amendment over the Nardiello reference and also to consideration of amendments made over the newly cited Haas and/or Bornschlegl references. Accordingly, reconsideration of the finality of the restriction requirement is respectfully requested.

In sections 2 and 3 on pages 2 and 3 of the Official Action, claim 5 is rejected under 35 USC §112 (second paragraph) as being indefinite. Applicant has amended claim 5 to recite that “the intermediate member is such that it repeatedly deforms to substantially the same shape” This then positively requires the intermediate member to repeatedly deform, thereby obviating any further basis for rejection under 35 USC §112 (second paragraph). As a result, claim 5 is believed to meet all requirements of the statute and any further rejection thereunder is respectfully traversed.

In section 5 beginning on page 3 of the Official Action, the Examiner rejects independent claim 1 “as being anticipated by Hass [sic] et al. (USP 6,089,061).” In fact, the Haas reference does not disclose all claimed elements or claimed interrelationship between elements as set out in Applicant’s independent claim 1. Specifically, Applicant’s invention as claimed in independent claim 1 requires “creep forming” the component by pressing the component into a shaped area with an intermediate member therebetween.

The shaped surface is defined in the claim as being “an open structure, the open structure including spaced apart elements separated by gaps.” Items 6 in Figure 2a, and elsewhere, are the spaced apart elements and the space between elements 6 are the claimed “gaps.” There are no gaps between the translating pins 5 as disclosed in the Haas reference. How or where the Examiner believes that there are gaps between the elements is not seen and clarification is respectfully requested.

Additionally, Applicant has amended independent claim 1 to clearly recite that the elements are “spaced apart elements,” clearly giving rise to the gaps between the elements. Again, there are no spaced apart elements shown in the Haas reference. In fact, Haas teaches the direct opposite, i.e., that each pin is immediately adjacent to and in contact with a neighboring pin. Thus, Haas does not anticipate or render obvious the subject matter of “spaced apart elements separated by gaps” and any further anticipation rejection thereunder is respectfully traversed.

Haas also fails to teach the claimed “intermediate member” which “suffers substantially no local deformation in regions of the intermediate member that bridge the gaps.” As shown in Applicant’s Figure 5, the intermediate element 12 bridges the gaps between elements 6 and conforms “substantially to the shape of said notional smooth surface” as required by the claims. It is noted that there is no local deformation of the intermediate member away from the “notional smooth surface” in Figure 5 and this requirement is positively recited in each of Applicant’s independent claims.

It is noted that the Haas reference allegedly discloses the aircraft component (honeycomb core 200) and discloses a collection of pins 5, but fails to disclose structure which is analogous to the claimed “intermediate member.” This member must deform “substantially to the shape of said notional smooth surface” and accordingly must have a certain level of stiffness in order to maintain the notional smooth surface between the elements.

The purported intermediate member in the Haas reference is “interpolating pad 210.” These pads are of a “open-weave fiber or mesh” and therefore inherently will have “local deformation in regions of the intermediate member that bridges the gaps.” Thus, the mesh will

sag in the gaps between the spaced apart elements. Haas doesn't encounter this problem because it has no spacing between the elements and therefore no gaps as required by the claim.

Applicant's claim solves the problem of maintaining the desired notional smooth surface curvature in the gaps between the spaced apart elements by having an intermediate member which is "sufficiently stiff that during the forcing of the aircraft component against the shaped surface, the intermediate member deforms substantially to the shape of said notional smooth surface, but suffers substantially no local deformation in regions of the intermediate member that bridge the gaps." This language positively recited in Applicant's independent claim 1 is clearly not anticipated or even suggested by the Haas reference which does not have gaps between the pins and which teaches an intermediate member which, at best, is a "open-weave fiber or mesh pad 210."

Accordingly, since Haas cannot teach this second structural interrelationship which is recited in Applicant's independent claims, it cannot anticipate or render obvious the subject matter of Applicant's independent claims or claims dependent thereon.

In view of the above, there are at least two claimed features/interrelationships which are missing from the Haas reference and therefore any further rejection of Applicant's independent claims or any claims dependent thereon under 35 USC §102 as being anticipated by the Haas reference is respectfully traversed.

Claims 4, 5, 7-9, 18 and 19 stand rejected under 35 USC §103 as being unpatentable over Haas. Inasmuch as claims 4, 5, 7-9, 18 and 19 ultimately depend from claim 1, the above comments distinguishing claim 1 from the Haas reference are herein incorporated by reference. As claims 4, 5, 7-9, 18 and 19 add further limitations to independent claim 1, those limitations

are not rendered obvious by the Haas reference because Haas (a) bears no relationship to a “creep forming” apparatus, (b) has no disclosure of a shaped surface defined by an open structure, i.e., a structure which includes “spaced apart elements separated by gaps” and (c) contains no disclosure of Applicant’s intermediate member which has the recited stiffness. Thus, none of these claims could be obvious to one of ordinary skill in the art in view of the major and multiple differences with the independent claims distinguishing over Haas.

Claims 1 and 18-26 stand rejected under 35 USC §103 as unpatentable over Bornschlegl (U.S. Patent 6,264,771) in view of Haas. While it is apparent that Bornschlegl teaches an apparatus for modifying the shape of an aircraft component (presuming that a “spacecraft” is also considered to be an “aircraft”), there is no disclosure of any intermediate member. Thus, Bornschlegl’s apparatus requires that the shaped surface bear directly on the aircraft component and teaches away from use of an “intermediate member” as set out in Applicant’s claims. In order to do so, Bornschlegl requires its use of a “cold forming” process with a rigid mold shell 10. It is also apparent from Bornschlegl that the spacing between the elements making up the mold shell 10 are relatively small and there is no danger of the aircraft component sagging into any gap between the elements. Again, Bornschlegl would teach away from Applicant’s claimed combination of spaced apart elements separated by gaps. There is clearly no disclosure of any use of an intermediate member to prevent local deformation of the aircraft component in the region bridging the gaps.

As noted above, Applicant has already pointed out the features of independent claim 1 which are missing from the Haas reference. Quite clearly, even if Haas and Bornschlegl are combined, they do not disclose an open structure including spaced apart elements separated by

gaps in combination with an intermediate member which is sufficiently stiff so that there is no “local deformation in regions of the intermediate member that bridge the gaps.” Thus, even if Bornschlegl and Haas were combined, they cannot render obvious the subject matter of Applicant’s independent claim 1 or claims 18-26 dependent thereon.

In its recent decision, the U.S. Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (April 2007), held that it is often necessary for a court to look to interrelated teachings of multiple patents, the effects of demands known to the design community or present in the marketplace and the background knowledge possessed by a person of ordinary skill in the art in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. The Supreme Court specifically held that “[t]o facilitate review, this analysis should be made explicit” (emphasis added).

The Supreme Court went on to say that it followed the Court of Appeals for the Federal Circuit’s advice that “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness” (emphasis added, the Supreme Court quoting from the Court of Appeals for the Federal Circuit in *In re Kahn*, 78 USPQ2d 1329 (Fed. Cir. 2006)).

The Examiner’s discussion of Bornschlegl and Haas does not provide any reason or motivation for picking and choosing elements from either of the references and then combining them in the manner of Applicant’s claim 1. Because the Examiner does not meet his burden of establishing some reason or motivation for combining the references, any *prima facie* case of obviousness clearly fails, even if the references taught the claim limitations, which, as noted above, they do not.

In the second full paragraph on page 9 of the Official Action, the Examiners only makes a “conclusory statement” that it would be obvious to combine Bornschlegl and Haas, but such a conclusory statement is insufficient support for a *prima facie* case of obviousness. Accordingly, the Examiner simply fails to meet his burden of proof of establishing why one would combine portions of the two references.

The Court of Appeals for the Federal Circuit has also held that where prior art references teach away from the claimed combination of elements and interrelationships, they tend to lead one of ordinary skill in the art away from the claimed invention. The leading away from the claimed invention is a rebuttal of any *prima facie* case of obviousness which has been set out by the Examiner.

Here, the Examiner has failed to set out a *prima facie* case of obviousness because all claimed elements are not disclosed in the referenced combination nor is there any reason to combine portions of the references in the manner contended by the Examiner. Moreover, because (a) Bornschlegl teaches away from using any “intermediate member” and Haas teaches away from “spaced apart elements separated by gaps” and (b) neither reference teaches that the intermediate member must be sufficiently stiff so as to suffer “substantially no local deformation” in the areas bridging the gaps, any *prima facie* case of obviousness has been clearly rebutted by the teachings contained in the two references.

In view of the above, the Examiner has simply failed to set out a *prima facie* case of obviousness and any further rejection thereunder is respectfully traversed.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that claims 1-5 and 7-39 are in condition for allowance and notice to that

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effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is respectfully requested to contact applicant's undersigned representative.

Respectfully submitted,

NIXON & VANDERHYTE P.C.

By: _____

Stanley C. Spooner
Reg. No. 27,393

SCS:kmm
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100